substance becomes brittle by coagulating in sea-water. It communicates by a narrow neck with the circumambient medium.

When we have once witnessed the formation of these singular cocoons it is not difficult to find them on the lower surface of stones, where they are generally sheltered in the hollows, and often hidden in the midst of the tubes of *Spirorbes*, *Vermiliæ*, &c.

On opening a cocoon with fine needles we find within it the parasite surrounded by its eggs. The latter are rose-coloured, held together by a gelatinous substance, and lining the inner surface of the posterior part of the cocoon. The *Fecampia* has lost a considerable part of its bulk; the slender anterior part has become much longer and thinner; the body is more rounded and of a reddish colour; the snowy whiteness has vanished, no doubt in consequence of the expulsion of the male products. It is towards the end of August that the *Fecampiæ* begin to undergo this transformation; it is also at this period that the females of *Carcinus mœnas* begin to carry their eggs. The young larvæ of *Fecampia* must therefore be developed in parallelism to the Zoeæ and Megalopi, and infest one or other of them. The eggs have a thin transparent wall and the characters of summer eggs. The segmentation is holoblastic and regular.

I hope soon to complete these observations by the description of the larva. It remains to be seen what becomes of the parasite when oviposition is terminated and it has completed the incubation of the eggs. But it seems to me that the facts indicated in this note deserved being brought without delay under the notice of naturalists.

From the preceding it will be seen that *Fecampia* differs considerably from *Graffilla* and the various genera of parasitic Rhabdocœla previously described. It appears to approach a parasite discovered by Lang in the foot of *Tethys fimbriata*, and I am persuaded that a more complete investigation of that Mediterranean type will show that it also secretes a cocoon.

In conclusion, I will recall the fact that an American naturalist, Charles Girard, many years ago noted in a Planarian (*Planocera elliptica*) a motionless and opaque form which he called a *chrysalis*, and which, perhaps, is not without analogy with the state observed by us in *Fecampia*. In *Planocera*, however, the encystation takes place during the larval period and has nothing to do with the incubation of the eggs.—*Comptes Rendus*, September 13, 1886, p. 499.

Observations on the Pollinization of the Indigenous Orchideæ.

By M. Paul Maury.

Referring to a recent paper by M. Léon Guignard on the pollinization of some exotic Orchids, the author states that he has made observations upon the following native species:—*Neottia ovata, nidus-avis*; *Orchis fusca*, *simia*, *morio*, *mascula*, *maculata*, *latifolia*, *laxiflora*; *Loroglossum hircinum*; *Ophrys arachnites*, *myodes*, *apifera*; *Platanthera bifolia*; *Cephalanthera grandiflora*; and *Epipactis atrorubens*.

In most of the above species the ovules are very slowly developed, and their development is far from being completed when the flower begins to wither, which is generally eight or ten days after its opening. Hence in each flower the pollinic masses attain their complete development long before the ovules, and may be destroyed or carried away by insects, wind, or rain, without the ovules of the flower being fertilized. But in the same inflorescence there are flowers in all stages of evolution; the lowest or oldest ones may therefore be fecundated by the pollen of the higher or younger ones. This is what usually takes place; the ovaries at the bottom of the inflorescence alone arrive at maturity.

The ovary of the Orchids remains open in many species. The upper part of its orifice, at the base of what is usually called the stigma, is simply closed by tumefied or even liquefied epidermic cells, forming the nectar, situated between the stigma and the base of the labella. When the pollinic mass falls or is conveyed upon this mucilage it is at once broken up into tetrads, and each grain of the tetrad begins to germinate.

The pollen germinates thus for a certain time:—two or three days in *Neottia ovata* and *Platanthera bifolia*, five or six days in *Orchis latifolia*, seven or eight days in most of the other species, and about nine or ten days in *Loroglossum hircinum* and *Ophrys*. When the pollen-tube reaches the nucule the latter projects considerably beyond the integument; but when the contact has taken place the ovule is rapidly developed and soon acquires its definitive demensions.

In our Orchideæ the vegetation is comparatively short (about six weeks for the *Neottia*, six weeks or two months for most of the species, and three or four months for *Loroglossum hircinum*), and the ovule takes twenty days or more for its complete formation, that is to become fit for fecundation. The seed ripens in a much shorter time.

The pollen-tube does not reach the ovule through the tissues of the stigma or the carpels. The ovary is gaping, and through its orifice the pollen-tubes pass united into a bundle, agglutinated by a mucilage produced by the jellying of the superficial cells of the carpellar walls. This modification of the cells is caused by the advance of the pollen-tube, and does not take place in ovaries which have not been fecundated.—*Comptes Rendus*, August 2, 1886, p. 357.

Manual of North-American Birds.

We have received from Messrs. J. B. Lippincott & Co., of New York, a notice that they are about to publish a 'Manual of North-American Birds' from the pen of Prof. Robert Ridgway, whose contributions to the literature of North-American ornithology are well known. Prof. Ridgway's knowledge of the habits of birds in a state of nature, and his connexion with the Ornithological Department of the National Museum at Washington, will doubtless enable him to make this a valuable contribution to the literature of ornithology. The work will be abundantly illustrated, the estimated number of figures being 425.